



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,775	12/30/2003	Christopher Cave	I-2-0564.1US	8211

24374 7590 05/28/2008

VOLPE AND KOENIG, P.C.
DEPT. ICC
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER

MOUTAOUAKIL, MOUNIR

ART UNIT	PAPER NUMBER
----------	--------------

2619

MAIL DATE	DELIVERY MODE
-----------	---------------

05/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/748,775	Applicant(s) CAVE ET AL.	
	Examiner MOUNIR MOUTAOUKIL	Art Unit 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on 03-05-2008 has been entered and considered.

Claims 1 and 3-14 are pending in this application.

Claims 2 and 14-25 are canceled.

Claims 1-14 remain rejected as discussed below.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the timeslot that has an opposite transmission direction current cell/sector than a transmission direction in the handover cell/sector is not assigned" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because figures 1 and 2 need to be specified as prior art. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1 and 3-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains new subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The new subject matter claimed, within the independent claims, the timeslot that has **an opposite transmission direction** current cell/sector than a transmission direction in the handover cell/sector is not assigned, is not supported by the original specification.

Claim Rejections - 35 USC § 103

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. Claims 1, and 3-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vadgama (US 2003/0083069) in view of Bottomley (US 6,473,602) and further in view of Malek et al (US 5,822,313). Hereinafter referred to as Malek.

Regarding claims 1 and 6, Vadgama discloses a method for soft/softer handover in a wireless hybrid time division/code division multiple access communication system (see page 12 paragraph [0167]. The system uses a hybrid TDMA/CDMA), the method comprising for a wireless transmit/receive unit (WTRU) (See figure 1, MU). The WTRU is able to determine the currently used uplink and downlink timeslots of the WTRU in a current cell/sector (see page 5, paragraph 0073, data is transmitted between the base station and the mobile unit); using the determined currently used uplink and downlink timeslots to identify different uplink and downlink timeslots in a handover cell/sector (paragraph [0004], cell selection is usually (determination of handover time slots) based on signal quality), and after initiating soft handover, communicating same uplink and downlink data with the current cell/sector using the currently used uplink and downlink timeslots (see page 5, paragraph 0077. during or after the soft handover, the mobile terminal maintains the same uplink/downlink data with the current cell).

Vadgama discloses all the limitations of the claimed invention with the exception of assigning uplink and downlink timeslots to the WTRU for a handover cell/sector. The assigned handover cell/sector uplink and downlink timeslots are different timeslots than

the currently used current cell/sector uplink and downlink timeslots. However, Bottomley discloses a mobile assisted handoff radio communication system. The system assigns a downlink and uplink time slots, different from the current data uplink and downlink time slots (see column 1 line 62-column 2 line, 16, handover measurements are communicated via a control channel). Thus, it would have obvious to the person of ordinary skill in the art at the time of the invention to implement the method of assigning uplink and downlink timeslots to the mobile terminal for handover, different from the data uplink downlink time slots, as taught by Bottomley, into the handover communication system of Vadgama. The motivation for assigning a different uplink and downlink to the mobile unit for a handover being that it will make section/cell handover more feasible and efficient.

Vadgama and Bottomley disclose all the limitations of the claimed invention, as discussed above, with the exception that the handover and the current time slots are synchronized. However, Malek, in a seamless handover TDMA system, teaches a method of synchronizing the basestations' time slots for the purpose of achieving a non-detectable handover to another base station. Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the method of synchronizing the handover and the current time slots, as taught by Malek (col.2, lines 43-60), into the handover method of Vadgama in view of Bottomley for the purpose of achieving a seamless handover.

Vadgama in view of Bottomley and further in view of Malek disclose all the limitations of the claimed invention with the exception that a timeslot that has an

opposite transmission direction in the current cell/sector than a transmission direction in the handover cell/sector is not assigned. It is generally considered to be within the ordinary skill in the art to select to most suitable timeslots that has the most efficient transmission direction for the purpose of maintaining a high QOS. The Burden of showing the criticality is on applicant. In re Mason, 87 F.2d 370, USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. V. U.S., 320 US 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since the direction of the assigned time slot is not critical to the system, it would have been obvious to select any time slot at least for the reason stated above.

Regarding claims 3, and 7. Vadgama discloses a method wherein the uplink and downlink data is decoded using a joint detector configured to only process signals sent by a same scrambling code (see figure 9, elements 268 and 270).

Regarding claim 4. Vadgama discloses a method, which further comprises one set of the same uplink data having a highest received signal quality received by each cell/sector being selected as decoded uplink data (see page 2, paragraph 2. the cell with the highest signal quality is chosen as decoded uplink data).

Regarding claims 5, and 9. Vadgama discloses a method, which further comprises combining both sets of the same downlink data as decoded downlink data (see figure 8, element 242. the system comprises a downlink data combiner/selector).

Regarding claim 8. Vadgama discloses a method where the WTRU further comprising a buffer for storing the detected received downlink data for the first and handover cell/sector (see paragraphs 167 and 168. the mobile unit receives handover information and data. inherently, the mobile unit must have a buffer or a memory to store and process the received data and handover information).

Regarding claim 10. Vadgama discloses a handover method wherein a transmission power level of the first cell/sector transmitted uplink data is based on a received signal power level (RSCP) of a channel transmitted by the first cell/sector and a transmission power level of the handover cell/sector transmitted uplink data is based on a RSCP of a channel transmitted by the second cell/sector (See paragraphs 76-78. the mobile unit is in communication with two or more base stations where the strengths of the various signals are taken into account).

Regarding claim 11. Vadgama discloses a WTRU wherein the RSCP of the first and handover cell/sector channels are determined in a same radio frame (see paragraph 73).

Regarding claim 12. Vadgama discloses all the limitations of the subject matter of claim 6.

Vadgama does not disclose that the first and handover cell/sector channels are not in a same radio frame. However, Bottomley discloses a mobile assisted handoff radio communication system. The system assigns a downlink and uplink time slots,

different from the current data uplink and downlink time slots (see column 1 line 62- column 2, line 16, handover measurements are communicated via a control channel). Thus, it would have obvious to the person of ordinary skill in the art at the time of the invention to implement the method of assigning uplink and downlink timeslots to the mobile terminal for handover, different from the data uplink downlink time slots, as taught by Bottomley, into the handover communication system of Vadgama. The motivation for assigning a different uplink and downlink to the mobile unit for a handover being that it will make section/cell handover more feasible and efficient.

Regarding claim 13. Vadgama discloses a WTRU wherein a transmission power level of the first cell/sector uplink communication is based on a pathloss of a channel transmitted by the first cell/sector and a transmission power level of the handover cell/sector is based on an offset of the first cell/sector pathloss (see paragraph 105, the strength of the signal quality is influenced by the path used by first and handover signals).

Regarding claim 14. Vadgama discloses a WTRU where the offset is updated periodically (see paragraph 108. the control signals are updated periodically).

Response to Arguments

9. Applicant's arguments with respect to claim 1 and 3-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

When responding to this office action, applicants are advised to clearly point out the patentable novelty which they think the claims present in view of the state of the art disclosed by the references cited or the objections made. Applicants must also show how the amendments avoid such references or objections. See 37C.F.R 1.111(c). In addition, applicants are advised to provide the examiner with the line numbers and pages numbers in the application and/or references cited to assist examiner in locating the appropriate paragraphs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOUNIR MOUTAOUAKIL whose telephone number is

(571)270-1416. The examiner can normally be reached on Monday-Thursday (1pm-4:30pm) Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MM
Mounir Moutaouakil
Patent Examiner
05-23-2008

/Hassan Kizou/

Supervisory Patent Examiner, Art Unit 2619